

**Notice of Allowability**

Application No.

10/791,811

Examiner

Thomas H. Parsons

Applicant(s)

SUGIYAMA ET AL.

Art Unit

1745

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed 17 February 2005.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ The drawings filed on 17 February 2005 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### **DETAILED ACTION**

1. A third-party submission has been filed under 37 CFR 1.99 on 18 November 2004 in the published application.

To ensure that a third-party submission does not amount to a protest or pre-grant opposition, 37 CFR 1.99 does not permit the third party to have the right to insist that the examiner consider any of the patents or publications submitted. Furthermore, if the submission or part of the submission is not in compliance with 37 CFR 1.99, that noncompliant submission or part thereof will not be entered in the application file. Therefore, unless the examiner clearly cites a patent or publication on form PTO-892, Notice of References Cited and such reference is used in a rejection or its relevance is actually discussed during prosecution, consideration by the examiner of any patent or publication submitted in a third-party submission cannot be presumed.

If the applicant wants to ensure that the information in a third-party submission is considered by the examiner, the applicant should submit the information in an IDS in compliance with 37 CFR 1.97 and 37 CFR 1.98. An individual who has a duty to disclose under 37 CFR 1.56 should also submit any material information contained in a third-party submission to the Office in an IDS in compliance with 37 CFR 1.97 and 37 CFR 1.98 to ensure such material information is properly disclosed to the examiner.

### ***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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**U.S. Patent No. 6,706,450** issued to Asada on 16 March 2004 discloses separator for a valve-regulated lead acid battery consisting mainly of fine glass fibers. The separator includes inorganic powder in an amount of 5 to 30% by weight and natural pulp in an amount of 3 to 20% by weight, and has a density of not less than  $0.165 \text{ g/cm}^3$ . The separator is provided to improve the property of suppressing the short circuits between the positive and negative electrode plates of the battery, and, further, which has an increased density to make the separator thinner and applicable to flat electrode plates.

**U.S. Patent No. 6,071,641** issued to Zguris on 6 June 2000 discloses lead acid battery having a glass fiber separator material. The separator material is a mass of intermeshed glass fibers produced by suspending glass fibers in a gaseous medium, and collecting the suspended glass fibers on a foraminous material. Zguris also discloses a battery having a glass fiber separator material with added cellulose fibrils, and a battery having a glass fiber separator material with added particulate material such as silica.

When a battery is produced, at least one stack of alternating positive and negative plates is assembled, with separator between adjacent plates, and the separator of each stack is compressed so that the stack can be slipped into a pocket which is a part of the case of the battery. It is important that the separator have sufficient resiliency, after such compression, that it exerts the required pressure against the paste or active material on each plate to force the paste into contact with the plate, and to cause a pressure between the plates, ensuring that there is an interface, along the faces of the plates, among the plate paste or active material, the electrolyte and oxygen.

**U.S. Patent No. 4,216,281** issued to O'Rell et al. on 5 August 1980 discloses A battery separator is provided that has 30-70% polyolefin synthetic pulp, 15-65% siliceous filler and 1-35% by weight of long fibers having lengths of between 1/4 and 1 inch. The long fibers may be polyester fibers or glass fibers or a mixture. Cellulose may be included in an amount up to about 10%. It is a further object of the present invention to provide a battery separator which can be prepared on a paper machine that has good flexibility so that it can be folded around the bottom of a lead battery plate without cracking. The battery separator has good flexibility so that it can be folded around the bottom of a lead battery plate without cracking.

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Neither of these prior art references of record teach or suggest a heat weldable organic fiber for welding fine glass fibers, inorganic powder and beaten natural pulp together, or a separator has a folding endurance of  $6.8 \text{ N}/10 \text{ mm}^2$  or greater at a second folding.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas H. Parsons whose telephone number is (571) 272-1290. The examiner can normally be reached on M-F (7:00-4:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas H Parsons  
Examiner  
Art Unit 1745

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**PATRICK JOSEPH RYAN**  
**SUPERVISORY PATENT EXAMINER**